confront unique terrain and density issues, they are still, at bottom, using the same technology, the same types of facilities, the same engineering network architecture. And I don't really believe that it is not possible to develop -- to incorporate them into a modeling approach. And what that will do is to de-link support from the company's own self-serving cost investment and operations decisions. It will also de-link the funding mechanism from cost allocations, which -- I was describing to somebody yesterday -- as 99 part art and 1 part science. And I think I may be overly exaggerating the amount of science.

We need to come up with mechanisms that are out of the hands of the individual companies and that provide a robust and consistent basis for funding irrespective of how these companies are individually managed. I don't see in particular reason why that cannot be done on a forward-looking basis.

COMMISSIONER ABERNATHY: Thank you.

DR. LEHMAN: Could I add something?

COMMISSIONER ABERNATHY: Not right

now, but you'll get a chance. I'm sorry. I really want to make sure everybody gets to ask questions.

In fact, my question is kind of a follow-up on what Commissioner Nelson started with. And that is, I think -- Mr. Lubin, Mr. Reynolds, Dr. Lehman, the impression that I got is you're basically saying -- without regard to what we do with ETC -- that we just keep the status quo. There is really no changes that need to be or should be made today. But most economists would argue that we need to at least get a grip on how we can create incentives for efficiency.

And so my question to all of you is, is there anything that can be done today, or are you saying, let's just -- no change?

DR. LEHMAN: This is Dale Lehman.

I do think that the idea of the price cap has some merit if you want to enhance cost-reducing incentives. As I thought about it a little more, I think my biggest concern is with these very small carriers, some of them have -- their plant is in a different shape. And sometimes carriers change, and all of a sudden they need invest more where historically they may not upgraded facilities very much.

And you can handle this through special cases, but I guess I just want to throw out another alternative, which is maybe we cap the fund at the state level. Each state gets indexed by inflation the amount of high-cost funding it previously got in the last 12 months. And then let the states work out internally how that filters down to the various companies they have within the state, which I think on the face of it has the appeal to me in terms of having the state make some closer-to-the-ground decisions about where the money is best used. So, it provides -- I think it provides a lot more discipline in the marketplace without what I would call handcuffing individual carriers in a way that might be very difficult for a small carrier.

COMMISSIONER ABERNATHY: Mr. Lubin.

MR. LUBIN: It's a very tough, tough question. My bottom line is the system is so fundamentally broken, whether it's USF methodology we're talking about now, whether it's USF contribution, whether intercarrier compensation. It's fundamentally broken. And from my point of view, the most important thing in terms of prioritization of resources is to try to figure out the intercarrier compensation and the contribution methodology.

Once you've solved that -- and, in fact, in some of the solutions, in particular the ICF, has included various components that addresses these issues, in particular the one that I've already described that says the incumbent rate-of-return carrier should have a different subsidy per line than an ETC if the subsidy per line is rising because of the incumbent losing lines. And the CETC shouldn't be given that. And that should be clear that that's not going to happen. So, you create inefficient entry.

Thank you.

COMMISSIONER ABERNATHY: Mr. Reynolds.

MR. REYNOLDS: Thank you, Commissioner Abernathy.

I think one of the presumptions here that efficiencies can only be created through regulation is a little bit off the mark. Generally speaking, I think that there are a lot of reasons why the companies want to operate efficiently, certainly just not to gain a system of universal service support.

One of the things -- and this kind of goes to Dr. Lehman said that you don't want to create an incentive that removes an incentive to invest in rural America. And aside from, you know, kind of the strict language of what we think Congress intended with the Act, which is to have a specific, sufficient, and predictable universal service fund, there's also this concept of uncertainty that comes along with the idea of continually changing up the regulatory scheme so that as you go to the capital markets, for instance, to draw down money so that you can invest in rural markets for rural consumers, that that creates a lot of the uncertainty.

So, I think when Joel describes sequencing some of these regulatory events, it's -- I wouldn't characterize it as business as usual. I think that what ITTA is saying in this instance is don't change the current system until we get some of these other items sequenced properly. And they all need to be taken in kind of the wholistic sense. And we're not interested in operating in an inefficient fashion at all.

Thank you.

COMMISSIONER ABERNATHY: And then --

MR. COIT: Excuse me. May I just make a brief comment?

COMMISSIONER ABERNATHY: Sure.

MR. COIT: I would like to just -- I think this needs to be said. And with respect to forward-looking cost models or any sort of price-capping mechanism -- Mr. Lehman commented on this a little bit -- we're talking about a smaller company. I think Mr. Lubin indicated earlier and made the suggestion that, you know, Verizon loses lines and they deal with it.

A rural carrier losing lines obviously because of their limiting economies is in a much more difficult position in terms of dealing with. In addition to that, you know, with respect to the forward-looking cost model, you know, one of the reasons that the

RTF after their studies recommended that it's not appropriate or suitable for rural companies was because of the disproportionate impact on rural carriers as a result of errors in the model.

I think the disproportionate impact that we're talking about if you look at that -- looking at some sort of price-capping mechanism is that when a rural carrier has to replace a switch, the percentage of cost that that makes up on the entire rural cost carrier's of that year is much than for larger carriers. They're not in a position to deal as easily with substantial investments that are needed in their networks because of whatever technology that may be coming down the road that they really feel their customers need in order to get the services that they deserve.

So, you know, I think that is a caution that, you know, don't forget about the economies that are faced. And they're much different and the impacts are much different. And I'm not sure that price capping mechanisms just as forward-looking mechanisms can deal with that in a very easy way.

Thank you.

COMMISSIONER ABERNATHY: Well, that sort of leads to my next question, which was, in the old technology world, I think, yes, that was true because all you were delivering, the only revenue source you had from the loop to home was voice. And there was a certain amount that we believed that consumers would pay for voice and that's where we were.

But as we're moving into a world where the pipe to the home can deliver many other valuable services so you've got multiple revenues streams from that source, how does that or how can we factor that in when we look at what, if any, changes should be made? Because it really changes the way that you recover your cost for your plant, because all of a sudden the plant can deliver more value than it used to deliver in the old world.

Mr. Lubin, Mr. Coit, and then Mr. Weller.

MR. LUBIN: I want to respond directly, but I just want to make a highlight on Mr. Coit's point.

And my highlight to him is the very reason that he is articulating his last point is the reason why I was bifurcating the difference between an incumbent like Verizon versus a rate-of-return entity, literally having two different approaches. With regard to the broadband, for me, that's a wonderful question in the following sense: it comes back to the issue -- and I'm going to focus on rate-of-return rural companies -- if you're rate-of-return today and you are trying to make a decision of do I market -- not do I deploy broadband investment because if you're rate of return, I believe you have every economic incentive to deploy investment. Do you have the incentive to market the broadband?

And when you're talking about 1300 companies, everybody is all over the place. So, I'm just making a general observation. And the general observation is, you made the point, well-founded, that says there's going to be new revenue opportunities. And the point that I want to make, though, is if we don't fix intercarrier compensation, then the average intrastate access revenue is five cents per minute to originate and terminate the rate, and that goes from anywhere from, say, two cents to 35 cents -- I just quoted you the average of five -- if they sell that broadband pipe and then somebody puts an application called VoIP, voice over the Internet, over that, they're going to cannibalize. And if that customer is a high-toll generator in a high-toll traffic, well, they're going to cannibalize. So, the point is unless we fix intercarrier compensation, we don't have the right incentive. In fact, we have a disincentive for the incumbent to aggressively market that product to the rural customer.

COMMISSIONER ABERNATHY: And, yes, I hear you on and -- yes. We know that. And, unfortunately, this Joint Board, we don't -- that's not our area or our proceeding. But I think at the FCC there is a real recognition that intercarrier comp distorts all kinds of market behaviors and destroys business plans. And the distortions flow over into rural areas as well as the non-rural areas. So, I agree we've got to deal with that. And, you know, at the FCC we're looking forward to putting out a proceeding seeking comment on the most recent proposals. And we really appreciate all the work that's been done on it.

So, I think what we're trying to do here today is say, in addition to that, what else can we do. But thanks for pulling them together.

I can't remember what three people I called on, now. I think Mr. Weller and I believe Mr. Coit.

MR. COIT: And I'll be brief. Just with respect to the question of whether, you know, given the increased value of -- what the effect of that might be, I would agree that certainly there are additional services that are provided over those facilities which certainly offers some opportunity.

At the same time, though -- I think this is in part what Mr. Lubin was getting to -- we're dealing with the intercarrier comp issues and rural carriers on average -- and I don't know exactly what the percentage is in South Dakota today, but we all know that across the country in terms of total revenue recovery, looking at rural carriers, much of it is wrapped up in assets in USF.

And to the extent that you may gain, you know, some additional revenue from some additional services, maybe that's going to just be necessary to replace what we've lost. But, you know, certainly there's a lot of pressures on the other revenues. So, that has to be taken into account.

COMMISSIONER ABERNATHY: Mr. Weller, you'll have the final word.

MR. WELLER: Thank you, Chairman Abernathy.

I think, first of all, as far as adding value is concerned, that's what you want the carriers to do. You want to structure the system so that you can give them incentives to do that. Their circumstances are very different from ours, of course, but we want that same incentive to add value to replace what you're losing in your traditional business.

And I think that decoupling the support from the variations that we've had, the calculations that we've done in the past, is part of that. In other words, you want the support to reflect some sort format that they can get but they have to work with in order to go forward.

Interestingly, I've just heard some interesting programs that the British have adopted to address this concern that Mr. Lehman raised about putting broadband in rural areas and not having anybody sign up. That's a little outside of the scope of the discussion here. I'd be happy to talk to you about it off line.

But the final observation is simply that market structure is an outcome in terms of relatives sizes of firms and how they're organized. And I think that rather than try to design the system to preserve the current market structure, what we have to do is put incentives in place and then let the firms respond to those incentives possibly by choosing different market structures. In other words, if one of the concerns about the incentive is to scheme, it's that it becomes harder and harder for carriers the smaller and smaller they get and the less averaging you have. This may create incentives for carriers to restructure themselves so as to better position themselves to deal with these market realities going forward.

COMMISSIONER ABERNATHY: Commissioner Dunleavy.

COMMISSIONER DUNLEAVY: Thank you, Madam Chairman.

In honor of Bob Rowe, I was going to try to formulate a really complex, multi --

(Laughter.)

COMMISSIONER DUNLEAVY: My colleagues have asked all the questions and the panelists have answered them, so I've got to get back to basics here. The basic question posed by this panel was, should rural carrier support be based on embedded or forward-looking costs? Not surprisingly, implicit in all of the answers there seems to be significant differences of opinion on whether the purpose of that support should be to maintain the financial health of an incumbent LEC or to mitigate the higher cost.

Let me ask you to assume for a

moment -- and that's probably dangerous -- that the purpose of the high-cost support is to mitigate cost differences among different areas, rather than the different cost among different carriers. Given that assumption, our task would be to determine if cost variations exist among various areas of the country. Now, Mr. Coit, perhaps can do a better -- you might help me out.

Population density is or appears to be a significant driver of cost disparities among various areas of the country. Are there any other characteristics, perhaps topographical, climatic, that contribute significantly to such cost differentials?

MR. COIT: Yes. I think there are a lot of them. I think that that's primarily a problem in trying to come up with a forward-looking mechanism that would be accurate enough that you don't have some significant errors that cause some impacts that you don't want to see. I think low density, though, is a huge driver.

You know, in a lot of cases, I think, it boils down to distance. You know, if you just look at the areas, if you only have 2.1 subscribers per route mile, it's pretty obvious that you're going to spend a lot more to reach those subscribers. And it's the function, I think of a lot of things. And I know I'm not giving you much of an answer here, but do I think it's a multiple number of factors. You know, size of the company certainly has a lot to do with it as well in terms of number of people that you have -- the number of people that you have working for the company and the number of people that you're serving.

COMMISSIONER DUNLEAVY: That being the case, would it make any sense to identify a half dozen or dozen types of service areas, if you will, reflecting density and other significant cost factors and then estimate average costs of serving each type of that area in an efficient manner?

MR. COIT: I personally don't believe that you should necessarily look at just the area served. I really do believe that larger companies have some economies and somebody to manage it that smaller companies do not have.

In a competitive environment, it's certainly harder to average and price the way you want to price, but I don't think any of us could say there isn't some averaging that occurs.

And I think that, you know, if you're looking at areas served rather than the companies, I think you're assuming that there aren't any of those efficiencies. And I don't think that's appropriate. I think you need to look at areas served in part, but I think more than anything it should be tied to the companies directly, and we define the companies appropriately based on the areas they serve.

COMMISSIONER DUNLEAVY: I wonder, Dr. Lehman, if perhaps -- and maybe this is further expanding on what Commissioner Abernathy asked. Could we invent a similar means of estimating costs and perhaps based on actual costs, the best-in-class or something like that?

DR. LEHMAN: Two different answers, one to the first question. I'm in agreement with Dr. Selwyn here. I actually think that order of magnitude forward-looking estimates probably can be accurately obtained. My point would be that order of magnitude is not good enough for small carriers. It's the difference between making far too much money, far too little money, or possibly the right amount.

And to Mr. Weller's point, I don't really think you want to pre-guess the market structure and put small companies out of business because they can't live with the degree of accuracy that you're able to produce in the forward-looking cost model.

Now, having said that, to the last question that you just asked, are there other ways to come at what a forward-looking cost might be. You know, I've done some simulations of how forward-looking costs and embedded costs differ across a number of characteristics. And you can produce fairly confident predictions about how different they might be, and it's on the order of 10 percent or less for loop costs.

But having done that, in the end, what do you come up with? You come up with something that's only validated by comparison to embedded costs anyways. It sounds like a lot of work to still be -- you have to validate the results of this to know that you have reasonable cost estimates. And there's nothing else to look at other than embedded costs. So, in the end embedded cost have to be the guide to whether you came up with a reasonable cost model. You have a thousand inputs. And even if you 900 of them are accurate, you don't know if you have a reasonable output of that model unless you compare it to something real. And unfortunately the only real data we have to compare it to is embedded cost.

COMMISSIONER DUNLEAVY: That's a little different than Dr. Selwyn.

DR. SELWYN: Just one quick comment. Dr. Lehman mentioned the model that he developed which compares embedded and forward-looking costs. I have looked at his paper and reviewed his work. And basically that analysis starts with the same set of inputs. So, in other words, if the costs -- if the basic investments numbers are wrong to begin with, then the relationship is identified while -- while, you know, interesting at an academic level, it doesn't really teach anything about what happens if you apply an efficient forward-looking cost model one the hand versus just simply taking the books -- the costs on the company's books as embedded costs as a given. We have no information right now as to what that relationship is.

We need to start -- even an indexing mechanism, for example, simply preserves -- unless it takes a fresh look at what the costs ought to be, then it's simply preserving whatever inefficiencies -- locking in whatever inefficiencies may already by present.

When the Commission -- when the FCC and the state commissions initially adopted price cap regulation for the larger LECs, what they did in virtually every case was to conduct a full-blown general rate case to establish a going-in rate level. And then they indexed from that. They didn't simply take whatever the pre-existing rate level happened to be and go forward into a price cap world.

And so, if an indexing mechanism -- which might, in fact, have some merit going forward at least on a transitional basis until we get to forward-looking costs. If that were to be adopted, we would still need to validate the going-in cost levels as the Commission and the state commissions did when we went to price caps.

MR. GARNETT: Just getting back to the original question, I think we would agree that in rural areas you're going to have to deal with -- especially for small carriers, you're going to have to deal with the number of other inputs. The Alaska Commission in their comments talks about a long list of inputs the Commission could consider. We're realistic that it's going to take a while to put smaller carriers on a forward-looking system, and that that system needs to account for those differences.

But the fact is that 75 percent of the 1300 study areas that Mr. Lubin has talked about are 65 percent of the rural telephone company access lines. And those are all carriers with over 50,000 lines in a study area. Those aren't the companies that we're talking about when we're talking about some of the real problems with the forward-looking mechanism that we have right now. And, you know, we think that it's -- it makes sense to move those bigger companies. I think Verizon said it should be if you have over 100,000 access lines in the state. In our comments we say 50,000. You know, we can split the difference, that's fine with us.

But the point is that for some of these bigger rural telephone companies, they're looking a lot more like non-rural telephone companies that have been under a forward-looking mechanism for several years now. And in many cases they're much bigger than some of the non-rural carriers that are on the forward-looking mechanism.

I think it was either Sprint or Verizon in their comments that noted that Roseville in California has just over 100,000 access lines. They've been on a forward-looking mechanism, and I think they're still in business. They've haven't declared bankruptcy. Things are going okay. And so, all of these predictions of sort of dire consequences of going to a forward-looking mechanism for -- especially for the bigger rural carriers, I think are a little bit of, you know, seriously conclusory statements.

One of the other things I've also heard from a number of people here is that we shouldn't do it because it's difficult. I see in a lot of the comments it's complex, it's difficult. That shouldn't be a reason for not picking the right outcome, the right mechanism. And we think there are a lot of smart people in this room and together we could probably come up with pretty good forward-looking mechanism that accounts for all the differences that we've talked about.

COMMISSIONER DUNLEAVY: Mr. Reynolds, briefly because I've overdone my time.

MR. REYNOLDS: I'll be brief. Responding to Mr. Garnett, first of all, one of the things -- absolute line size has never been an attribute at all to whether somebody is rural, whether they have high cost, low cost, or whatever. You can have poor study areas and we have member companies in a states like Montana, the large, square states, noncontiguous operating areas. Line size has nothing at all to do with the operating characteristics of those companies. It's not captured in the cost models.

And I'd also go back and just -- there are a lot of smart people in this room. There are a lot of smart people associated with the Rural Task Force. And when you go back and you look at the effort that they did in there working paper number four to validate how the FCC synthesis model would treat rural companies, you find a dislocation of about $1.1 billion in loss of support to the rural companies, which included holding companies that have rural companies and stand alone rural companies.

Thank you.

COMMISSIONER MARTIN: Mr. Weller, I saw in your testimony and was intrigued about your discussion about a presumption of one ETC in each area. And I was wondering if you could give us insight into how and who would chose what the one ETC would be in your proposal.

MR. WELLER: That's an interesting question. You keep coming back to who gets the money, don't you? Frankly, I think in the near term there may be a strong presumption that it would the incumbent because of the cost of dislocation to consider. I think down the road if you're talking about something completely different, thinking beyond the near term, I'd say infrastructure grants.

I just sat through a couple days of a conference at the OECD looking at efforts to support rural broadband networks throughout the world. And almost without exception there are upfront grants and almost without exception they're awarded on an itinerant basis, option basis.

So, I think in the near term if we're talking about who gets the existing regulation, who gets the existing support, as you know, I have made some proposals along those lines in the past. But I'm not sure they're really applicable today when we're trying to change the framework.

So, I think these sort of mechanical changes that I've proposed here today are more